AMENDMENTS TO THE ABSTRACT:

Please accept the following abstract since none was provided with the original U.S. National Stage application papers:

ABSTRACT OF THE DISCLOSURE

The X-ray opaque glass is characterized by a composition, in mol %, of SiO_2, 75 - 98; Yb_2O_3, 0.1 to 40; and ZrO_2, 0 to 40. Preferred embodiments of the glass are free of Al_2O_3 and B_2O_3. The glass is produced from the glass batch by melting at a temperature of at least 1500°C in an iridium or iridium alloy vessel with the assistance of high-frequency radiation. In preferred embodiments of the glass production process at least one raw material ingredient is present in the batch as a nanoscale powder. The glass is useful in dental applications, optical applications, and biomedical applications, or for photovoltaics, or as a target material in PVD processes.